

325202

May, 2023
B.Sc. (Life Science) II Semester
Zoology-II Anatomy and Developmental Biology
(BLS 202)

Time : 3 Hours]

[Max. Marks : 75

Instructions :

1. *It is compulsory to answer all the questions (1.5 marks each) of Part-A in short.*
2. *Answer any four questions from Part-B in detail.*
3. *Different sub-parts of a question are to be attempted adjacent to each other.*
4. *Draw the diagrams wherever required.*

PART-A

1. (a) What do you understand by epigenetic modifications?
(1.5)
- (b) Define juxtacrine signaling. (1.5)
- (c) What is grey crescent in context to amphibian egg?
(1.5)
- (d) Define sperm capacitation. (1.5)

21
/

- (e) What is blood-testis barrier? (1.5)
- (f) Define visceral arches. (1.5)
- (g) What are the functions of nociceptors? (1.5)
- (h) Distinguish between meissner corpuscles and ruffini endings. (1.5)
- (i) State the functions of liver in mammals. (1.5)
- (j) Differentiate between holocrine and merocrine glands. (1.5)

PART-B

- 2. (a) Elucidate tripartite concept of kidney formation. (10)
- (b) Explain the mechanism of breathing in birds. (5)

- 3. (a) Compare and contrast the brain of reptile and birds. (5)
- (b) Elaborate digital tips observed in birds and mammals. (10)

- 4. Write a note on evolution of aortic arches from amphibian to mammals. (15)

- 5. (a) Describe the diversity of morphological and biochemical responses to thyroid hormone during frog metamorphosis. (5)
- (b) Elaborate the process of human placenta formation. (10)

- 6. (a) Elaborate the process of vitellogenesis in birds. (10)
- (b) Explain different types of movements observed during gastrulation (5)

- 7. (a) Write a note on oogenesis and also state the role of cAMP in meiotic arrest. (10)
- (b) State the various functions of zona pellucida. (5)